# AN ANALYSIS OF BEHAVIORAL ADJUSTMENT CHANGES IN HETEROGENOUSLY GROUPED PSYCHIATRIC PATIENTS

by

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Reader,

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# CHAPTER I

## INTRODUCTION

There is much concern among mental health workers about the varied and sometimes nebulous organizational systems of psychiatric wards in mental hospitals (Stanton & Schwartz, 1954). The concern stems from the question, what makes hospitals effective in assisting the treatment of mentally ill patients?

There have been various psychiatric ward models set up for treatment effectiveness (Martin, 1962). The classic model provides the patient with an admission ward in which he is observed and cared for a given length of time. He is then transferred to an acute treatment ward. If no adequate improvement occurs within a stipulated period of time the patient is transferred once more to a continued treatment ward. Discharge can be effected from any one of the three wards. Such an organizational system chart appears in Figure 1A.

Another system used in mental hospitals has been termed the flow system. Patients are admitted to an admission ward from which they may be discharged or sent to a ward which houses patients with comparable behavioral problems. As his behavior progressively becomes better, he progresses to a ward which cares for patients with comparable behavior.

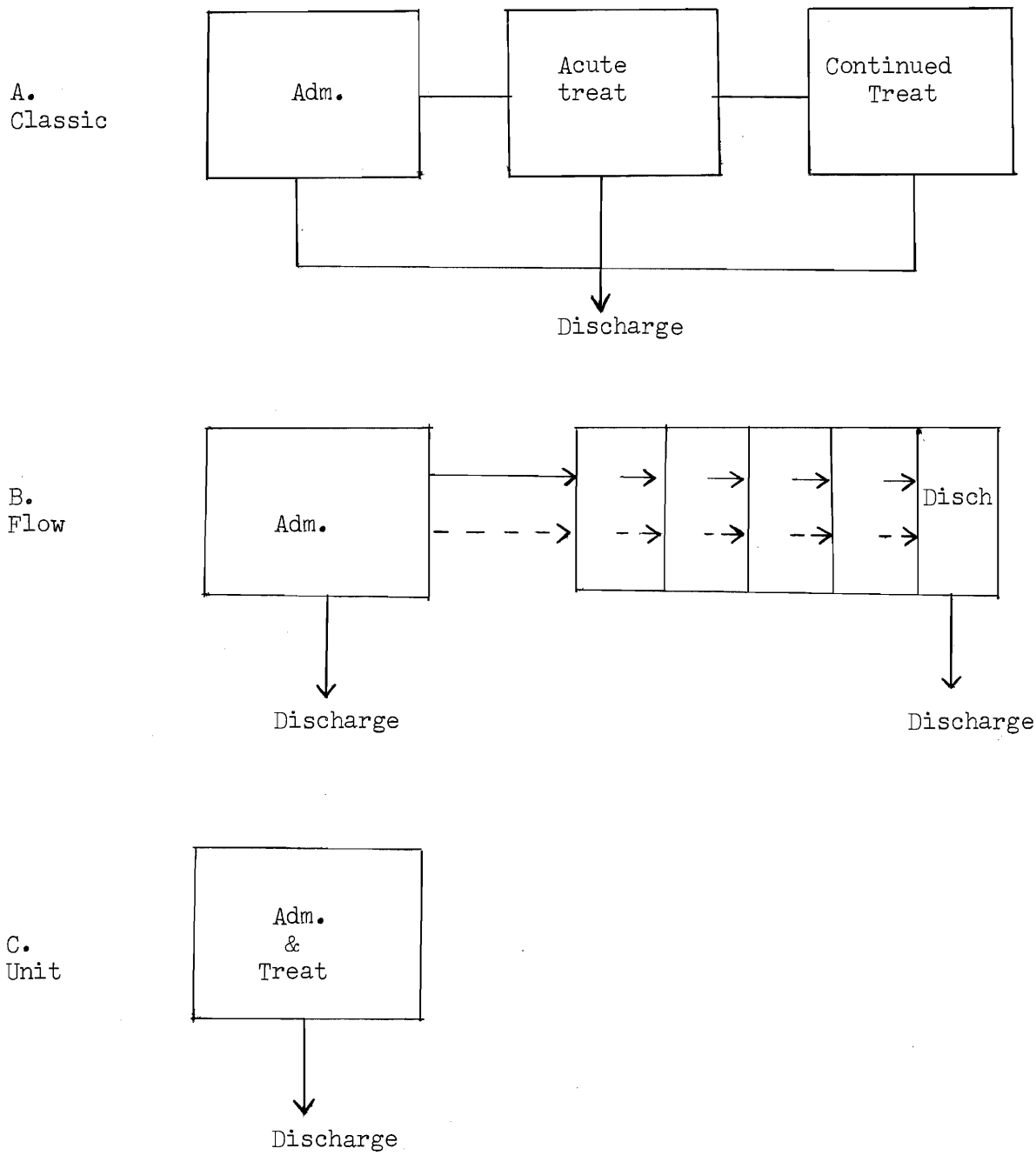


Fig. 1 Ward organizational systems within mental hospitals.

Discharge occurs from the admission ward or from the discharge ward. See Figure 1B.

The most recently introduced system is the unit system. The patient is admitted, treated and discharged from the same ward. See Figure 1C.

There are variations of the unit system, i.e., a patient may be admitted to a particular unit because of his present behavior, because of the geographical location which is his residence, or for any other logical reason which has been determined by the hospital administration.

In a recent five-year study (Cohen, Gurel, Giovannai, & Stumpf, 1964) of 12 veterans hospitals, investigation was made of staffing and size factors influencing patients' leaving the hospital faster and remaining out of the hospital longer.

The findings indicated that: 1) the patients on smaller sized units left the hospital faster and remained out of the hospital longer; 2) the units staffed with larger numbers of personnel had faster discharge rates with less rapid readmission rates; and 3) those units whose staffs practiced non-traditional attitudes, i.e., manifested willingness to try new innovations, discharged the patients faster and these patients remained out of the hospital longer.

It is obvious that each one of these factors can be affected by other factors influencing the improvement of patients. For instance, it is not plausible that the size of a unit is the only determinant of improvement in the patient's mental health. Why do patients on smaller units improve faster? Do they receive more individual care? Are there personnel on this ward who understand the

patient? Are his problems discussed with staff members as well as with other patients? What are the factors affecting the size of the unit?

An untested factor is the patient upon patient effect. What is the influence of mixing deteriorated, chronic and overtly psychotic patients with less deteriorated, acute, less psychotic patients? What kind of influential effect do they have upon one another? An unfounded assumption among hospital ward personnel in large mental institutions is that the intermingling of these two types of patients has a positive therapeutic effect upon both groups. Is this, in fact, the case?

In this connection a statement by the Expert Committee on Mental Health of the World Health Organization (1953) is pertinent:

> The most important single factor in the efficacy of the treatment given in a mental hospital appears to the committee to be an intangible element which can only be described as its atmosphere. . . . As in the community at large, one of the characteristic aspects of the psychiatric hospital is the type of relationship between people that are to be found within it. The nature of the relationships between the medical director and his staff will be reflected in the relationship between the psychiatric staff and the nurses, and finally in the relationship not only between the nurses and the patients, but between the patients themselves (pp. 17-18).

A review of the Psychological Abstracts 1958-64, the Cumulative Index of Hospital Literature, 1950-64, the Cumulative Index to Nursing Literature, 1955-64, did not reveal one study specific to the effects of intermingling chronic, deteriorated, overtly psychotic patients with acute, less deteriorated, less psychotic patients.

There are reports of the effects of integrating male and female patients on one unit (Klerman & Mallory, 1963; Sletten & Bennett, 1963). Regardless of anticipated moral problems and ward structure problems, the integration was considered successful and contributory to patient improvement due to the more normal socially integrated environment.

There are reports of intermingling adolescents and adults on one psyciatric ward and it is indicated that both groups benefit from the intermingling (Falstein, Feinstein, & Cohen, 1960).

There are reports of casual observations such as those reported by Cumming & Cumming (1962): "Dr. Rudolph Freudenberg, Medical Director of Netherne Hospital, South Coulsdon, England, told us that the patients on the most heterogeneous wards make the greatest improvements" (pp. 148-49).

One editorial published in Hospitals (1963) lauds the success of the unit system in discharging patients faster and describes the setting considered beneficial to the patient, but does not tell why. One session at the American Psychiatric Association Meeting, 1963, was a panel discussion (Brill, Folsom, St. Pierre, & Zubowicz) which summarized the agreement that mental hospitals could be improved by being divided into units. However, the main emphasis was upon the administrative functions rather than upon improvement in patients. A one and one-half year study (Benz, 1965) of the unit plan in a state hospital is now under analysis. The expectations are that it will show patient improvement.

The assumption that a positive therapeutic effect will occur from intermingling chronic and acute patients is based on the premise that

when a patient is grouped according to behavioral problems he then interacts with patients who mirror back to him his own problem. He then will be restricted to a narrow environment which provides no knowledge of other patterns of interaction. If he has the opportunity to intermingle and interact with all types of patients who present different kinds of behavior, he will not only see how his own behavior is accepted but also he will learn different ways of behaving. For the chronic patient, it is a way of learning more socially accepted ways of living. For the less chronic patient it is a way of learning how not to become chronic.

This writer believes that the patient upon patient effect as a means of producing positive therapeutic effects is still questionable and needs further study. It can readily be observed that much verbal expression which takes place on psychiatric wards cannot be considered communication. There is little evidence that meanings that patients are attempting to send are received by another patient. As Reusch (1961) relates, "One plainly gets the feeling that the other person is not there" (p. 84).

The writer also believes that the chronic patient's perception of the world becomes so constricted that any new intervention will produce changes. These behavorial changes in the patient will often be interpreted by those familiar with his former behavior as being improvement. However, once the patient finds that there is no longer any greater satisfactions in the new behavior or that the people in his environment no longer recognize the change, he returns to his former mode of behavior.

It is also believed by the writer that recently admitted patients are struggling to maintain some facsimile of normal behavior. Their motives could be that they feel the facade will in itself make the illness go away or that they must feel secure in the environment before they expose manifestations of their illness.

Many persons entering hospitals feel increased anxiety. The writer believes that this must be a much greater feeling for a newly admitted psychiatric patient. Furthermore, to house him with chronically ill, deteriorated patients could be interpreted by the patient as representing his own hopeless and bleak future. It would seem that either one of the above explanations could account for a regression in behavior patterns in newly admitted patients. It would also seem possible that a patient who had improved enough to be placed on a discharge ward, and then transferred to a ward with chronic patients would find that his former sick behavior patterns are reawakened. It would also seem possible that he might misinterpret the administrative transfer as re-evaluation of his prognosis.

The foregoing considerations raise several questions.

1. Does the intermingling of chronic and acute patients result in improved adjustment for both groups of patients?

2. Do those patients, whose behavioral adjustment is below average, temporarily improve following intermingling of chronic and acute patients?

3. Do those patients, whose behavioral adjustment is above average, temporarily regress following the intermingling of chronic and acute patients.

4. Do both groups of patients resume their former behavioral adjustments following their respective improved or regressed periods?

The purpose of this study was to answer the above questions by analyzing the behavioral adjustment changes in a group of psychiatric patients before and after they had been transferred from the flow organizational system into the heterogenous unit system.

# CHAPTER II

## METHOD

Ninety-six male psychiatric patients, who resided on three different psychiatric wards of the flow organizational system were equated on the basis of age, diagnosis, length of stay in the hospital and the Mood, Cooperation, Communication, Social Contact (MACC) Behavioral Adjustment Scale scores (Ellsworth, 1962).

These patients were then equally distributed on three wards in the new unit organizational system. This was done in such a way that there was an equal number of patients on each ward according to the four above variables. This gave three parallel, heterogeneously grouped wards.

The first three variables represent controls. The MACC Behavioral Adjustment Rating Scale was used to measure the therapeutic effect. This rating was completed on each patient before the move to the unit system, after one month and again after two months of the patients' residing on the unit organizational system. Hereafter these rating times will be referred to as 1, 2, and 3.

The MACC Behavioral Adjustment Scale is a method of evaluating how the patient adapts himself to various situations in the hospital community regardless of the extent of his psychopathology. The behaviors described in the items of the scale are clearly definable and easily recognized. It can be marked by any nurse or nursing assistant familiar with the patient and who has had a short training period in ratings.

The raters used in this study were nursing assistants who were familiar with the patients. A psychologist, expert in the use of the scale, established training groups of three to four nursing assistants.

He provided explanations of the use of the scale, description of the behaviors in ratings, and practice sessions in rating until all raters were in agreement on the ratings.

The scale consists of 16 items sensitive to and reflecting clinical improvement in hospitalized patients according to specific areas in behavioral adjustment.

The items in the original MACC scale (Ellsworth, 1957) were grouped into four behavioral adjustment areas labeled Motility, Affect, Cooperation, and Communication (MACC). The scale was revised in 1962 (See Appendix C) and also contains four behavioral clusters: Mood (previously labeled affect), Cooperation, Communication and Social Contact. Each cluster contains four 5-point items, with a possible score range of 4-20 for each cluster. The Total Adjustment Score, based on all 16 items in the scale, has a score range of 16-80; the higher the score, the better the adjustment. The Total Adjustment Score was the only score analyzed in this report.

Ellsworth (1962) investigated the scale for three different kinds of validity. The concurrent validity has been established to the .001 level of confidence against an identifiable group such as open ward patients versus closed ward patients. The inference is that open ward patients exhibit better adjustment behavior than do closed ward patients.

The MACC correlates .89 (N=47) with the Hospital Adjustment Scale (Ferguson, McReynolds, and Ballachey, 1953), another acceptable measure of adjustment of mentally ill patients.

The third validation deals with predictive validity i.e., length of hospitalization and post hospital adjustment. While Ellsworth

(1962) reported statistically significant correlations, he stated that the correlations were not large enough for accurate prediction for each individual patient. Whether or not a patient is released from a hospital depends not only upon his behavioral adjustment, but also upon family and community resources.

Ellsworth (1962) reported the intra-rater reliability coefficient was .91 and the inter-raters coefficient was .86 for the total adjustment score.

The norms for the MACC scale were based upon only male patients from one veterans hospital. The subjects of this study were all male veteran patients.

Only those patients who remained in the hospital and were rated on all three occasions were used for the purpose of this paper. The total N was therefore reduced to 66. The three psychiatric wards involved in this study were 3A, N=19; 3C, N=26; and 3D, N=21.

The division of the patients into the above and below median groups for all of the analyses was based on the median score of the first rating on the MACC (See Appendix A).

In order to determine if there was a significant difference in the behavioral ratings of the poorer adjusted patients and the better adjusted patients, a 2 x 3 analysis of variance was completed between the two groups divided at the median.

To determine if there was a significant difference among the subjects in only the above median group across the three rating times as related to the three wards, a 3 x 3 analysis of variance was done. A similar analysis was conducted on the below median group.

In order to determine whether there were differences among the three wards, a fourth 3 x 3 analysis of variance was performed on the combined score of the above median group and the below median group across the three rating times.

Hereafter the above median group will be referred to as Group A, and the below median group will be referred to as Group B.

# CHAPTER III

## RESULTS

The median score for the 66 patients was 56. Ellsworth describes as relative average standing for patients, any score between 55 and 67. Considering that the total group was divided at the median, differences between Group A and Group B would be expected. The means of the two groups across the three rating times should also be different. If Group A regresses in adjustment temporarily and if Group B improves in adjustment temporarily one would also expect a difference in the interaction term.

Comparison of Group A and Group B for total N. In order to answer the questions concerning the effects of intermingling chronic and acute patients, it was necessary to determine if the above stated differences between Group A and Group B were significant for the total N. Therefore a 2 x 3 analysis of variance based on the MACC was computed for the total sample.

Table 1 lists the mean raw MACC scores for Group A and Group B. The variation between the two groups across the rating time can be seen.

TABLE 1

Mean MACC Adjustment Scores of Total

Sample For Group A and Group B

Across Ratings

| | Rating Times | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| Group A | 64.48 | 61.58 | 64.03 |
| Group B | 46.00 | 52.18 | 52.89 |

TABLE 2

Summary of Analysis of Variance

of Group A and Group B

Across Ratings

| Source | Ss | df | Ms | F | p |
|---|---|---|---|---|---|
| A (Groups) | 8,378 | 1 | 8,378 | 32.37 | $<.001$ |
| Subjects w/in Groups | 16,565 | 64 | 258.8 | | |
| B (Repeated Tests) | 340 | 2 | 170 | 3.29 | $<.05$ |
| A x B | 768 | 2 | 384 | 7.44 | $<.001$ |
| A x B x Subjects w/in Groups | 6,605 | 128 | 51.6 | | |

Table 2 provides the summary of the analysis of variance of Group A and Group B across rating times. The F for the variance between the high and low adjustment was 32.37. This indicates that there was a significant difference ($p < .001$) in the adjustment scores between Group A and Group B.

The repeated tests F indicates there was a significant change in the mean scores for the combined groups from the first to the third rating ($p < .05$) which reflects an overall increase in behavioral adjustment. The interaction term between the two groups was significant beyond the .001 level indicating a difference in the way that the two groups' mean adjustment scores changed across the three ratings.

These significant findings between Group A and Group B of the total sample allowed for exploration into the questions concerning the effects of heterogeneously grouped patients.

Comparison of the Subjects in Group A. The questions are: (1) does the intermingling of chronic and acute patients effect a behavioral improvement in patients whose behavioral adjustment is above average; (2) do those patients whose behavioral adjustment is above average temporarily regress in their adjustment following the intermingling of chronic and acute patients; and if so, (3) do those patients resume their former behavioral adjustment levels following regression. To answer the questions a 3 x 3 analysis of variance was computed for Group A maintaining the unique N's for each ward' (See Appendix B).

Table 3 presents the mean adjustment scores on the MACC. Table 4 gives the summary of analysis of variance of Group A for the three

wards across the rating times. None of the F tests was significant which indicates that Group A on any ward made no significant change in adjustment, that Group A on any ward was not rated significantly different on any rating time, and that Group A did not change in a differential manner from ward to ward.

Figure 2 demonstrates the mean scores of Group A and Group B for the three wards across the rating times. It can be seen that there was a drop in the adjustment score on rating 2 for all three wards. Although this regression in adjustment was not significant there was a tendency on Wards 3C and 3D to affirm the answers to questions 2 and 3 above. In answer to question 1, examination of the means in Table 3 and Fig. 2 of Group A will show that there was no overall improvement for any of the wards as measured by the behavioral rating scale from rating 1 to rating 3.

Comparison of the subjects in Group B. It was now necessary to answer the questions concerning Group B: (1) does the intermingling of chronic and acute patients effect a behavioral improvement in patients whose behavioral adjustment is below average; (2) do those patients with below overall behavioral adjustment temporarily improve in their adjustment following the intermingling of chronic and acute patients; and if so (3) do those patients resume their former behavioral adjustment levels following improvement.

TABLE 3

Mean MACC Adjustment Scores of Group A

For The Three Wards Across Ratings

| | Rating Times | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| Ward 3A | 64.18 | 62.73 | 59.18 |
| Ward 3C | 67.71 | 62.57 | 69.07 |
| Ward 3D | 64.50 | 58.25 | 61.88 |

TABLE 4

Summary of Analysis of Variance of Group A

For The Three Wards Across Ratings

| Source | Ss | df | Ms | F | p |
|---|---|---|---|---|---|
| A (Wards) | 284 | 2 | 142 | | |
| Subjects w/in Groups | 5,742 | 30 | 191.4 | | N.S. |
| B (Repeated Tests) | 175 | 2 | 87.5 | | |
| A x B | 398 | 4 | 99.5 | 1.67 | N.S. |
| B x Subjects w/in Group | 3,142 | 60 | 52.37 | 1.90 | N.S. |

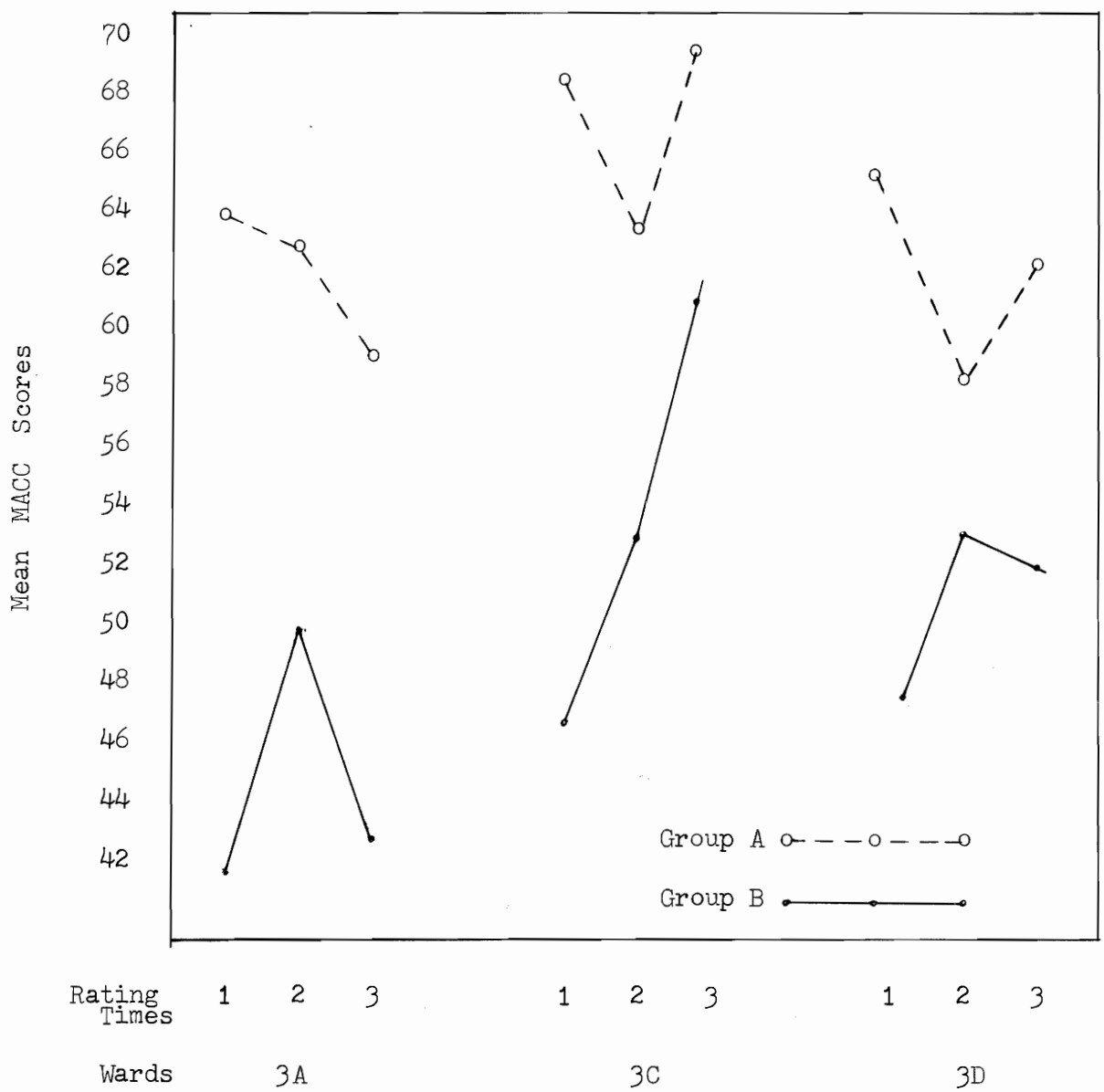


Fig. 2. Mean scores for Group A and Group B for the three wards across ratings.

A similar 3 x 3 analysis of variance was computed for Group B. Table 5 depicts the mean scores of Group B for the three wards across the rating times. In spite of the mean variation observable in Table 5 and Fig. 3, there is such a range between the high and the low scores for Group B that the F test among the wards was not significantly different. It appears that Ward 3A scores balanced Ward 3C scores and that Ward 3D remained fairly constant.

Table 6 presents the summary of the analysis of variance of Group B for the three wards across the three ratings. It can be seen that the F test was significant ($p < .01$) for the difference among the means across the three rating times. Fig. 2 indicates that there was an increase adjustment score for all three wards from the first to the second rating. Ward 3C increased again while Wards 3A and 3D decreased on the third rating. The F test produced a significant interaction term ($p < .01$). There was a differential manner in which the three wards rated. From examination of the mean scores in Fig. 2 and Table 5 it appears that this difference in interaction was due to Ward 3C.

The questions may be answered. Patients in Group B did improve in behavioral adjustment; however the improvement was temporary for one of the three wards. By a comparison of the findings in the summaries of the second and third analysis, it appears that the only patients who improved over the two month time period were those patients in Group B.

TABLE 5

Mean MACC Scores for Group B on the

Three Wards Across Ratings

| | Rating Times | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| Ward 3A | 42.00 | 49.62 | 42.75 |
| Ward 3C | 46.75 | 52.58 | 60.58 |
| Ward 3D | 47.77 | 53.38 | 52.00 |

TABLE 6

Summary of The Analysis of Variance For Group B

On The Three Wards Across Ratings

| Source | Ss | df | Ms | F | p |
|---|---|---|---|---|---|
| A (Wards) | 1228 | 2 | 614 | 1.95 | N.S. |
| Subjects w/in Groups | 9426 | 30 | 314.2 | | |
| B (Repeated Tests) | 838 | 2 | 419 | 9.49 | $<.01$ |
| A x B w/in Groups | 727 | 4 | 181.75 | 4.75 | $<.01$ |
| B x Subjects w/in Groups | 2296 | 60 | 38.27 | | |
| Ward A with C & D | | | 992.90 | 3.16 | N.S. |

By examination of the means in Fig. 2 it appears that the only patients who improved in Group B were those patients assigned to Ward 3C. This would suggest that there was a factor specific to Ward 3C and missing from Ward 3A and Ward 3D which accounts for improvement in the behavioral rating scores.

Comparison of the three wards. A fourth analysis of variance was made to determine if there were significant overall changes in the three wards when the above average (Group A) and the below average (Group B) adjusted patients were combined.

Table 7 gives the mean scores for the wards on the three ratings. Table 8 shows a summary of that analysis of variance. As can be seen there is no overall difference between the three wards. There is also no significant difference among the three ratings. However there is a significant interaction term indicating that the different wards change across the ratings in a differential manner. From the means in Table 7 and Fig. 3 it looks like this significant interaction term is once again mainly due to Ward 3C. This ward shows increasing scores across the three ratings. Ward 3D showed very little change. Ward 3A increased approximately two points on the second rating and then dropped approximately five points on the third rating. This drop in Ward 3A could also contribute to the significant interaction.

It looks like the patients on Ward 3C were getting better while the patients on the other wards showed no overall significant improvement.

TABLE 7

Mean Scores For Wards Across Ratings

| | Rating Times | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| Ward 3A | 54.84 | 57.21 | 52.26 |
| Ward 3C | 56.42 | 57.96 | 65.15 |
| Ward 3D | 54.14 | 55.24 | 55.76 |

TABLE 8

Summary of the Analysis of Variance

of Wards Across Ratings

| Source | Ss | df | Ms | F | p |
|---|---|---|---|---|---|
| A (Wards) | 1,038 | 2 | 519 | 1.37 | N.S. |
| Subjects w/in Groups | 23,792 | 63 | 378 | | |
| B (Tests) | 216 | 2 | 108 | 2.16 | N.S. |
| A x B | 1,017 | 4 | 254 | 5.08 | $<.01$ |
| B x Subjects w/in Groups | 6,322 | 126 | 50 | | |

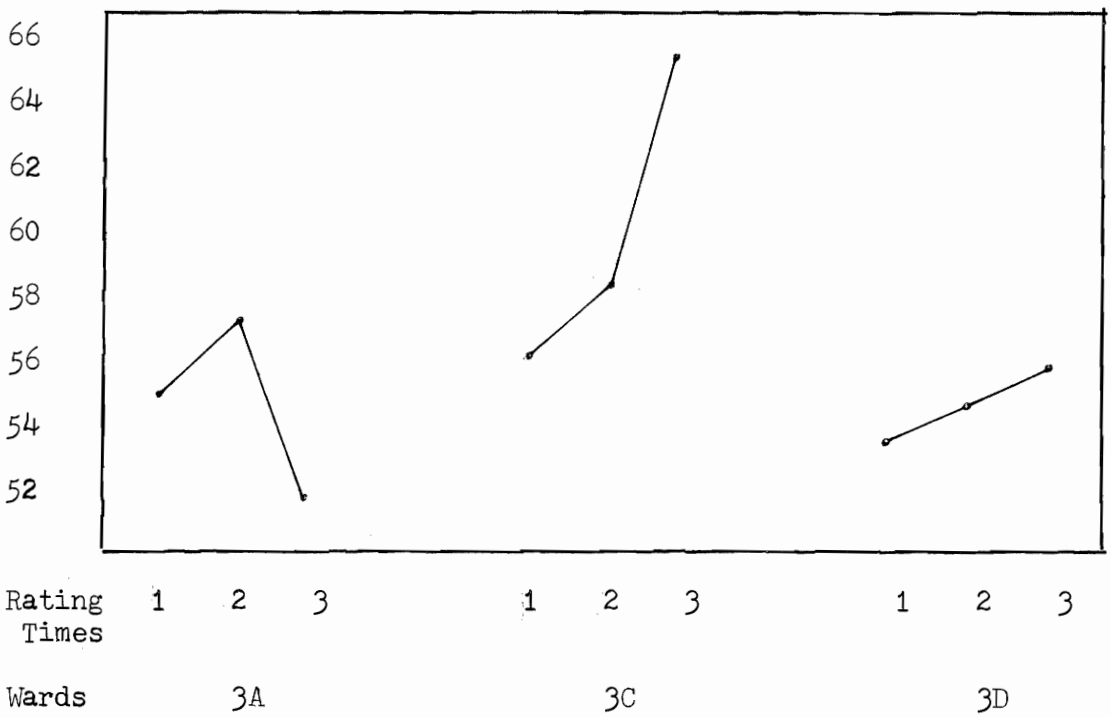


Fig. 3. Combined mean scores of both groups for three wards across ratings.

There are significant differences then in Group B scores of each ward across the three ratings, in the interaction of the wards of Group B, and in the interaction of the wards in the combined Groups A and B. It is unlikely that these differences occurred by chance.

# CHAPTER IV

## DISCUSSION

The results of the present study indicate that the intermingling of more disturbed with less disturbed patients does not necessarily have a positive therapeutic effect upon all patients. Nor does it appear that a unit ward system per se, is "better" for all patients - that is, contributes to their improvement.

The question to be answered is, why did patients improve on only one ward? What were the differences on the ward that account for the change? There are many variables present in any ward situation. One of the variables which has always been a consideration is the open door versus closed door policy. Proponents of the open ward (Wisebard, Denber, Charatan & Travis, 1959; Stern, 1959) present studies which show improvement in patients, using the open ward as the variable for the improvement.

As mentioned earlier, each of the three wards was to operate as separate units and by so doing make all policies concerning the ward. Ward 3A opened the door within two weeks following the unit organizational system. A patient monitor sat at the door but was instructed not to physically stop patients from leaving. Ward 3C opened the door on a semi-open basis with a patient door monitor, within five weeks after the instigation of the new unit system: there were only certain hours the door was open to provide patients easy access to work assignments, meals, and recreation. Ward 3D never opened the door. Considering the findings in this study, the value of the open door to the improvement in patients' behavior is questioned. The open door policy per se does not appear to be associated with

improved behavior of patients among these three wards.

The patient-government aspect of psychiatric wards has long been felt helpful in patient improvement. All three wards conducted weekly patient-government meetings. This does not suggest that the quality of the patient-government was the same for the three wards. It does suggest a re-evaluation of patient-government meetings with a keen eye as to whether or not it is patient-centered for patient improvement.

Stanton & Schwartz (1954) as well as Martin (1962) emphasize the continuity of philosophy of all personnel working with the patients. It was the authors' observation that there was an almost laissez-faire atmosphere on Ward 3A, a problem-solving conjoint philosophy on 3C, and a strict authoritarian climate on Ward 3D. This is not to speculate upon the effects of a contented versus discontented staff which the above writers contend influence the behavior of patients. Rather it is to point out that on Ward 3C problems which arose with patients became a matter for psychiatrist, nurse, and nursing assistants to explore the "why" of the problem - the "why" of the behavior. Caring for the patient was then based upon the "why".

One possibility for the improvement in only the Ward 3C below median adjustment group is that the more sick, more regressed patients, present glaring problems to nursing staffs. It may be that the better adjusted patient did not present overt nursing care problems and thus no exploration into the "why" of his behavior or the implementation of a nursing care plan for him was carried out. A mutual withdrawal as presented by Tudor (1952) may have occurred.

All wards had one head nurse and an average of three nursing assistants on the day tour of duty. Each ward holds thirty-two beds which are usually occupied. With such a patient-staff assignment it is easy to understand why the problem behavior is usually the only behavior given consideration.

The qualifications of the psychiatric staff were similar on the three wards. One psychiatrist was board certified. One psychiatrist was board qualified, and the third psychiatrist was a third year psychiatric resident.

None of the three head nurses was a clinical specialist in psychiatric nursing, i.e., they did not hold M.S. degrees in nursing with specialization in psychiatric nursing. They all held B.S. degrees and all had worked on psychiatric wards over five years. The head nurse on Ward 3C had within the past nine months completed a twelve week psychiatric nursing course taught at the University of Utah. She evaluates her nursing care as different after taking the course, and describes the difference as knowing that behavior was purposeful and attempting to acknowledge this concept in her work with the patients. The nursing philosophies of the other two nurses are unknown. All of the nursing assistants on all wards had undergone the same in-service training offered by the hospital.

This study raises a number of questions.

1. What was specific to Ward 3C which accounted for the improvement of patients?

2. Why did only the below average adjustment patients improve?

3. Does the nursing care plan meet the needs that the patients present and improve his behavioral adjustment?

4. Does the open door policy contribute to the improvement of patients?

5. Could the selection of the type nursing personnel who work with patients affect their improvement?

6. Does the ward meeting purpose, plan, organization, or topics influence improvement in patients?

It would be more desirable to repeat the study with control groups from the flow organizational system with heterogenous groups in the unit organizational system. It would also be desirable to repeat the study using selected nursing personnel with control groups.

Such a study would lend itself to nursing intervention research by controlling the variables listed above and experimenting with the nursing intervention in meeting the needs of patients.

# CHAPTER V

## SUMMARY

This study was designed to analyze the behavioral adjustment changes which occurred in heterogeneously grouped psychiatric patients over a two month time period.

The question was asked, is there a therapeutic effect which, as measured on a Behavioral Adjustment Scale, results in more acceptable behavioral responses for both the chronic and overtly psychotic patients as well as the acute and covertly psychotic patients?

Sixty-six patients were equated on age, diagnosis, length of stay in the hospital and the MACC Behavioral Adjustment Rating Scale. The MACC scale was the instrument for measuring behavioral adjustment. The patients were equally distributed over three wards based upon the three above controls and the first rating on the MACC Scale. Ratings were completed at one and two month intervals. The wards operated under a unit organizational system. Analysis of variance of the changes in adjustment scores indicated:

1. There was no overall improvement for all patients.

2. There was no overall improvement in the above average adjusted patient.

3. There was an improvement after one month in all below average behavioral adjusted patients.

4. There was overall improvement in the below average adjusted patient on only one ward.

It is concluded that:

1. The unit ward system per se did not contribute to the improvement in behavioral adjustment for patients.

2. There was a factor present on one ward and missing from the other two wards which could account for behavorial adjustment improvement.

3. This unidentified factor was specific to improvement in only the below average group.

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# APPENDIXES

# APPENDIX A

Table of Raw MACC Scores

for

Group A and Group B

TABLE 9

Raw MACC Scores for Group A and Group B

| | Group A | | | | Group B | | |
|---|---|---|---|---|---|---|---|
| | Rating Times | | | | Rating Times | | |
| Subject | 1 | 2 | 3 | Subject | 1 | 2 | 3 |
| 1 | 56 | 49 | 50 | 34 | 56 | 43 | 34 |
| 2 | 57 | 54 | 59 | 35 | 56 | 66 | 67 |
| 3 | 58 | 59 | 60 | 36 | 56 | 56 | 64 |
| 4 | 58 | 66 | 78 | 37 | 55 | 65 | 46 |
| 5 | 58 | 63 | 59 | 38 | 54 | 44 | 53 |
| 6 | 58 | 64 | 64 | 39 | 54 | 54 | 75 |
| 7 | 59 | 52 | 57 | 40 | 54 | 46 | 54 |
| 8 | 59 | 67 | 76 | 41 | 54 | 69 | 60 |
| 9 | 60 | 41 | 26 | 42 | 53 | 67 | 77 |
| 10 | 60 | 66 | 57 | 43 | 53 | 53 | 52 |
| 11 | 61 | 71 | 74 | 44 | 52 | 62 | 55 |
| 12 | 61 | 68 | 64 | 45 | 51 | 38 | 46 |
| 13 | 61 | 52 | 73 | 46 | 51 | 62 | 80 |
| 14 | 61 | 72 | 63 | 47 | 50 | 64 | 57 |
| 15 | 62 | 55 | 59 | 48 | 50 | 55 | 62 |
| 16 | 62 | 71 | 69 | 49 | 49 | 69 | 54 |
| 17 | 63 | 59 | 55 | 50 | 49 | 55 | 56 |
| 18 | 63 | 31 | 44 | 51 | 49 | 60 | 64 |
| 19 | 64 | 60 | 70 | 52 | 49 | 60 | 68 |
| 20 | 64 | 64 | 74 | 53 | 47 | 61 | 64 |
| 21 | 64 | 56 | 61 | 54 | 46 | 51 | 52 |
| 22 | 64 | 76 | 63 | 55 | 45 | 40 | 45 |
| 23 | 65 | 59 | 58 | 56 | 45 | 71 | 66 |
| 24 | 66 | 69 | 78 | 57 | 44 | 47 | 46 |
| 25 | 68 | 57 | 77 | 58 | 39 | 39 | 47 |
| 26 | 70 | 65 | 70 | 59 | 38 | 48 | 56 |
| 27 | 70 | 65 | 75 | 60 | 36 | 42 | 42 |
| 28 | 73 | 74 | 78 | 61 | 36 | 60 | 44 |
| 29 | 74 | 42 | 41 | 62 | 33 | 42 | 36 |
| 30 | 76 | 68 | 61 | 63 | 30 | 42 | 45 |
| 31 | 77 | 70 | 78 | 64 | 29 | 28 | 28 |
| 32 | 77 | 78 | 80 | 65 | 29 | 32 | 25 |
| 33 | 79 | 69 | 62 | 66 | 26 | 31 | 25 |

# APPENDIX B

Table of Raw MACC Scores

For

Group A and Group B

On Three Wards

TABLE 10

Raw MACC Scores for Group A and Group B

On Three Wards

| | Group A | | | Group B | | | |
|---|---|---|---|---|---|---|---|
| | Rating Times | | | | Rating Times | | |
| | 1 | 2 | 3 | | 1 | 2 | 3 |
| 3A N=11 | 58 | 63 | 59 | 3A N=8 | 55 | 65 | 46 |
| | 58 | 64 | 64 | | 53 | 53 | 52 |
| | 60 | 66 | 57 | | 52 | 62 | 55 |
| | 61 | 68 | 64 | | 49 | 55 | 56 |
| | 61 | 72 | 63 | | 36 | 60 | 44 |
| | 62 | 55 | 59 | | 33 | 42 | 36 |
| | 64 | 56 | 61 | | 29 | 28 | 28 |
| | 64 | 76 | 63 | | 29 | 32 | 25 |
| | 65 | 59 | 58 | | | | |
| | 74 | 42 | 41 | | | | |
| | 79 | 69 | 62 | | | | |
| 3C N=14 | 56 | 49 | 50 | 3C N=12 | 56 | 56 | 64 |
| | 57 | 54 | 59 | | 54 | 44 | 53 |
| | 58 | 59 | 60 | | 54 | 54 | 75 |
| | 58 | 66 | 78 | | 53 | 67 | 77 |
| | 61 | 71 | 74 | | 51 | 62 | 80 |
| | 61 | 52 | 73 | | 49 | 60 | 68 |
| | 63 | 59 | 55 | | 47 | 61 | 64 |
| | 64 | 60 | 70 | | 46 | 51 | 52 |
| | 64 | 64 | 74 | | 44 | 47 | 46 |
| | 66 | 69 | 78 | | 39 | 39 | 47 |
| | 68 | 57 | 77 | | 38 | 48 | 56 |
| | 76 | 68 | 61 | | 30 | 42 | 45 |
| | 77 | 70 | 78 | | | | |
| | 77 | 78 | 80 | | | | |
| 3D N=8 | 59 | 52 | 57 | 3D N=13 | 56 | 43 | 34 |
| | 59 | 67 | 76 | | 56 | 66 | 67 |
| | 60 | 41 | 26 | | 54 | 46 | 54 |
| | 62 | 71 | 69 | | 54 | 69 | 60 |
| | 63 | 31 | 44 | | 51 | 38 | 46 |
| | 70 | 65 | 70 | | 50 | 64 | 57 |
| | 70 | 65 | 75 | | 50 | 55 | 62 |
| | 73 | 74 | 78 | | 49 | 69 | 54 |
| | | | | | 49 | 60 | 64 |
| | | | | | 45 | 40 | 45 |
| | | | | | 45 | 71 | 66 |
| | | | | | 36 | 42 | 42 |
| | | | | | 26 | 31 | 25 |

# APPENDIX C

## The MACC Behavioral Adjustment Scale

# The MACC Behavioral Adjustment Scale

## FORM II

## An Objective Approach

## to the

## Evaluation of Behavioral Adjustments

*By*

ROBERT B. ELLSWORTH, Ph. D.

*Published by*

WPS
*Established 1948*

WESTERN PSYCHOLOGICAL SERVICES
PUBLISHERS • DISTRIBUTORS • CONSULTANTS
BOX 775, BEVERLY HILLS, CALIFORNIA

| Date: | Place: | Ward No. | Activity Rated | M F |
|---|---|---|---|---|
| Patient's Name: | | | Rater's Name: | |
| Total Adjustment Score | | Centile Score | | |

Remarks: (for example, relatively low or high areas of behavior, etc.)

Evaluation:

CLINICIAN OR RATER:

IMPORTANT: **To all raters:** Be sure to familiarize yourself with the **Directions For Rating** found on page four of this Scale, before you begin to make your ratings.

1. Is he pleasant, never seems to be irritable or grouchy?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Usually very grouchy | Most often irritable | Sometimes pleasant | Most frequent pleasant | Always pleasant |

2. Does he generally cooperate, "go along" with things asked of him?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Almost never cooperates | Most frequently resistive | Resistive rather often | Goes along with requests most of the time | Always does what is asked |

3. Does he take part in sensible "back and forth" conversation, listening as well as talking to you, not just short answers to your questions, but a "give and take" conversation?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Never back and forth conversation | Occasional back and forth conversation | Fairly often "give and take" conversation | Usually good "back and forth" talk | Almost always listens and talks realistically |

4. How many FRIENDS does he have (patients he talks to, spends time with, AND who want to be with him?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| No friends, very hostile to others or always by himself. | Shows interest when approached by other patients but rarely talks with them | Usually tries to be around other patients but is passive socially | Has one or two friends with whom he spends some time | Spends considerable time with other friends |

5. Is he sullen?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Always sullen | Most often sullen | Sometimes sullen | Rarely sullen | Always pleasant |

6. Does he seem resistive?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Very resistive | Most often resistive | Sometimes resistive | Rarely resistive | Never resistive |

7. If asked a question, does he respond in such a way that he is understood, using words that are understandable?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Mute or talks "jibberish" | Answers make **little** sense | Response often sensible | Usually sensible | Almost always sensible |

8. Does he easily enter into "give and take" conversation with other PATIENTS?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Rarely says anything to others, even when approached | Talks with others but **only** when approached | Talks willingly to other patients but depends on them to "keep the conversation going" | Enters easily into conversation, keeps his end of the conversation going | Talks with many different patients often stimulates conversation with other patients |

9. Is he bitter?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Always bitter | Usually bitter | Sometimes bitter | Rarely bitter | Never bitter |

10. In the things that are expected of him to do, does he go ahead and do them on his own without having to be told how and when to do it, or must he be directed and encouraged to do them?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| No initiative | Occasionally acts "on his own" | Fairly often goes ahead "on his own" | Usually shows initiative | Almost always goes ahead "on his own" |

11. Does he seem accessible, easy to "get through" to, able to understand you when you talk to him?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Like talking to a "brick wall" | Occasionally "get through" | Often accessible | Almost always accessible | Very easy to "get through" to him |

12. Does he spend his time alone?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Always alone, pays no attention to others | Always alone but is alert and aware of others about him, rarely participates in activity | Reluctant but can be drawn into activity when approached | Usually will take part in activity when invited to do so | Often doing things with other patients |

13. Is he angry and hostile?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Always angry | Usually angry | Sometime friendly | Usually friendly | Almost always friendly |

14. In tasks assigned to him, can he "stay with" the task without frequent redirection, without becoming preoccupied and "lost"?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Almost always becomes preoccupied quickly | Rarely "stays with" tasks | Continues tasks fairly long | Usually "stays with" it | Almost always completes tasks |

15. Does he quickly grasp and understand what is told him, without having to explain things three or four times, not just passively listening, or paying attention, but grasping easily what you want?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Never really comprehends | Understands some after long explanations | Gets most of it with 1 or 2 explanations | Usually picks it up fairly easily | Grasps right away what is told him |

16. Is he well informed about OTHERS ON THE WARD?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Shows no evidence of knowing any patients by name | Sometimes knows to whom you are referring when you use a patient's name | Usually knows to whom you are referring when you use another patient's name | Knows and usually **calls by name** most of the personnel | Knows and usually calls by name most of the personnel **and** patients |

SCORING*

| Mood | | Cooperation | | Communication | | Social Contact | | TOTAL ADJUSTMENT |
|---|---|---|---|---|---|---|---|---|
| 1. | | 2. | | 3. | | 4. | | (Add the sums of |
| 5. | | 6. | | 7. | | 8. | | Mood, Cooperation, |
| 9. | | 10. | | 11. | | 12. | | Communication and |
| 13. | | 14. | | 15. | | 16. | | Social Contact.) |
| SUM | | + | | + | | + | = | |

*To obtain the patient's profile, transfer the summed scores for Mood, Cooperation, Communication, Social Contact, and Total Adjustment to the Profile Summary on Page 4.

## DIRECTIONS FOR RATING

1. For each item, circle the number which most **characteristically** describes the patient's behavior.
2. Rate only patients you know through personal observations or contact.
3. Be objective in your ratings. Rate the patient as you saw him or her behave, not as you wish or think the patient should behave. Do not let your personal feelings about the patient bias your ratings.
4. Do not give the same rating tor all items; use your best judgment on **each** item. A patient may be rated very low on one item even though he may show a high level of adjustment on most items.
5. Rate quickly and do not hesitate to give extreme ratings if your observations point to such ratings.
6. Practice rating several patients, then discuss your ratings with one skilled in using this scale. Rate the same patients on two different occasions to improve the reliability of your ratings.

## DIRECTIONS FOR SCORING

1. Record the rating for each item on the bottom of page 3.
2. Sum the scores for each behavior area and plot the summed scores on the profile sheet under the headings Mood, Cooperation, Communication, Social Contact.
3. Sum the 4 behavioral area scores to obtain the Total Adjustment Raw Score.
4. Convert the Total Adjustment Raw Score into a Centile Score on the Profile Sheet. The Centile Score is then used in reports of patient adjustment level, progress, etc.

## PROFILE SUMMARY

| PATIENTS' RELATIVE STANDING | Mood | Cooperation | Communication | Social Contact | Total Adjustment | Centile Score |
|---|---|---|---|---|---|---|
| VERY HIGH | —20— | —20— | —20— | —19— | —80— | 95 |
| | | | | | —79— | |
| | | | | —20— | —78— | |
| | | | | | —77— | |
| | | | | | —76— | |
| | | | | | —75— | 90 |
| ABOVE AVERAGE | —19— | —19— | —19— | —18— | —74— | 85 |
| | | | | | —73— | |
| | | | | | —72— | |
| | | | | | —71— | 80 |
| | | | —18— | —17— | —70— | 75 |
| | —18— | —18— | | | —69— | |
| | | | | —16— | —68— | 70 |
| AVERAGE | —17— | —17— | —17— | —15— | —67— | 67 |
| | | | | | —66— | 65 |
| | | | | | —65— | 60 |
| | —16— | —16— | —16— | —14— | —64— | |
| | | | | | —63— | 55 |
| | | | | —13— | —62— | |
| | | | | | —61— | 50 |
| | | | —15— | —12— | —60— | 45 |
| | | | | | —59— | |
| | | —15— | | | —58— | 40 |
| | | | | —11— | —57— | |
| | —15— | | —14— | | —56— | 35 |
| | | | | | —55— | 33 |
| BELOW AVERAGE | | —14— | | —10— | —54— | 30 |
| | —14— | | —13— | | —53— | |
| | | | | —9— | —52— | 25 |
| | | —13— | | | —51— | |
| | | | —12— | | —49-50— | 20 |
| | —13— | | | —8— | —48— | |
| | | | —11— | | —46-47— | |
| | | —12— | | | —45— | 15 |
| | | | | —7— | —43-44— | |
| | | | —10— | | —41-42— | |
| | —12— | | | | —40— | 10 |
| VERY LOW | | —11— | | | —39— | |
| | | | —9— | —6— | —38— | |
| | —11— | | | | —37— | |
| | | —10— | —8— | | —36— | |
| | —10— | | | —5— | —35— | 5 |
| | | | | | —34— | |
| | —9— | —9— | —7— | | —33— | |
| | —8— | —8— | —6— | | | |
| | —7— | —7— | —5— | —4— | —27-32— | |
| | —4-6— | —4-6— | —4— | | —16-26— | |